Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Currently amended)   A method of producing a (run, level) encoded picture from an original picture, said method comprising:

producing respective sets of transform coefficients for blocks of pixels in the original picture;

quantizing transform coefficients in the respective sets of transform coefficients to produce respective sets of non-zero quantization indices for the blocks of pixels, wherein the non-zero quantization indices for at least some of the blocks are produced by using a quantization step size that is not uniform within said at least some of the blocks;

inspecting magnitudes of the non-zero quantization indices for selecting a limited number of largest magnitude non-zero quantization indices for the blocks of pixels in the respective sets of quantization indices to produce respective sets of selected quantization indices having non-zero levels for the blocks of pixels; and

(run, level) encoding quantization indices from the respective sets of selected quantization indices to produce the (run, level) encoded picture.

2.   (Currently amended) The method as claimed in claim 1, wherein the respective sets of

non-zero transform coefficients for the blocks of pixels are produced by computing discrete

cosine transforms.

3.   (Currently amended) The method as claimed in claim 1, wherein the largest magnitude

non-zero quantization indices are selected from the respective sets of non-zero quantization

indices by finding up to a selected number of largest magnitude non-zero quantization indices

from each of the respective sets of non-zero quantization indices.

4.   (Currently amended) The method as claimed in claim 1, wherein the largest magnitude

non-zero quantization indices are selected from the respective sets of non-zero quantization

indices by sorting up to a selected number of non-zero quantization indices from each of the

respective sets of non-zero quantization indices.

5.   (Currently amended) The method as claimed in claim 1, wherein the original picture is a

frame of motion picture video, the respective sets of transform coefficients for the blocks of

pixels are produced and quantized by an MPEG encoder to produce (run, level) coded MPEG

video, and the largest magnitude non-zero quantization indices are selected from the respective

sets of non-zero quantization indices during transcoding of the (run, level) coded MPEG video to

produce reduced-bandwidth, reduced-quality MPEG encoded video.

6.   (Currently amended)   The method as claimed in claim 1, wherein the (run, level)

encoding of the non-zero quantization indices from the respective sets of selected non-zero

quantization indices to produce the (run, level) encoded picture includes (run, level) encoding of

non-zero quantization indices that are not the largest magnitude non-zero quantization indices in

order to (run, level) encode the largest magnitude quantization indices with fewer bits than

would otherwise be required for (run, level) encoding of the largest magnitude non-zero

quantization indices.

7.   (Currently amended)   A method of scaling non-scalable MPEG-2 coded video to

produce reduced-bandwidth, reduced-quality MPEG-2 coded video, the non-scalable MPEG-2

coded video including a set of non-zero AC discrete cosine transform (DCT) coefficients indices

for 8x8 blocks of the non-scalable MPEG-2 coded video, the non-zero AC discrete cosine

transform (DCT) indices for at least some of the 8x8 blocks of the non-scalable MPEG-2 coded

video having been produced by using a quantization step size that is not uniform within said at

least some of the blocks, said method comprising:

        inspecting magnitudes of the non-zero quantization indices for removing non-zero AC

DCT coefficients indices from the non-scalable MPEG-2 coded video so that the reduced-quality

MPEG-2 coded video includes no more than a selected number of largest magnitude non-zero

quantization indices for the non-zero AC DCT coefficients indices for each 8x8 block.

8.   (Original) The method as claimed in claim 7, which includes, for each of the 8 x 8 blocks of the non-scalable MPEG-2 video:

a.) parsing and copying a differential DC coefficient variable-length code (VLC);

b.) parsing and decoding (run, level) event variable-length codes (VLCs) up to an end-of-block marker to identify a respective set of non-zero quantization indices;

c.) finding up to the selected number of non-zero quantization indices having the largest level magnitudes in the respective set of non-zero quantization indices to identify a respective set of largest magnitude non-zero quantization indices; and

d.) applying (run, level) event formation and entropy encoding to the set of largest magnitude non-zero quantization indices.

9.   (Original) The method as claimed in claim 8, which includes sorting indices in the respective set of non-zero quantization indices in order to find up to the selected number of non-zero quantization indices having the largest level magnitudes in the respective set of non-zero quantization indices.

10.   (Currently amended)   The method as claimed in claim 8, wherein the application of (run, level) event formation and entropy encoding to the set of largest magnitude non-zero quantization indices includes (run, level) encoding of non-zero quantization indices that are not largest magnitude non-zero quantization indices in order to (run, level) encode the set of largest

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magnitude <u>non-zero</u> quantization indices with few bits than would otherwise be required for (run, level) encoding of the set of <u>non-zero</u> quantization indices.

11. (Currently amended) A digital computer programmed for producing a (run, level) encoded picture from an original picture, wherein the digital computer comprises at least one processor programmed for:

producing respective sets of transform coefficients for blocks of pixels in the original picture;

quantizing transform coefficients in the respective sets of transform coefficients to produce respective sets of <u>non-zero</u> quantization indices for the blocks of pixels, wherein <u>non-zero</u> quantization indices for at least some of the blocks are produced by using a quantization step size that is not uniform within said at least some of the blocks;

<u>inspecting magnitudes of the non-zero quantization indices</u> for selecting <u>a limited number of</u> largest magnitude <u>non-zero</u> quantization indices from the respective sets of <u>non-zero</u> quantization indices to produce respective sets of <u>selected</u> quantization indices having non-zero levels for the blocks of pixels; and

(run, level) encoding quantization indices from the respective sets of <u>selected</u> quantization indices to produce the (run, level) encoded picture.

12.   (Original)   The digital computer as claimed in claim 11, wherein the processor is

programmed for producing the respective sets of transform coefficients for the blocks of pixels

by computing discrete cosine transforms.

13.   (Currently amended)   The digital computer as claimed in claim 11, wherein the

processor is programmed for selecting the largest magnitude <u>non-zero</u> quantization indices from

the respective sets of <u>non-zero</u> quantization indices by finding up to a selected number of largest

magnitude non-zero quantization indices from each of the respective sets of <u>non-zero</u>

quantization indices.

14.   (Currently amended)   The digital computer as claimed in claim 11, wherein the

processor is programmed for selecting the largest magnitude <u>non-zero</u> quantization indices from

the respective sets of <u>non-zero</u> quantization indices by sorting up to a selected number of non-

zero quantization indices from each of the respective sets of <u>non-zero</u> quantization indices.

15.   (Currently amended)   The digital computer as claimed in claim 11, wherein the original

picture is a frame of motion picture video, the processor is programmed for producing and

quantizing the respective sets of transform coefficients for the blocks of pixels during MPEG

encoding of the original picture to produce (run, level) coded MPEG video, and the processor is

programmed for selecting the largest magnitude <u>non-zero</u> quantization indices from the

respective sets of <u>non-zero</u> quantization indices during transcoding of the (run, level) coded

MPEG video to produce reduced-bandwidth, reduced-quality MPEG encoded video.

16.   (Currently amended)   The digital computer as claimed in claim 11, wherein the

processor is programmed for (run, level) encoding of the quantization indices from the respective

sets of <u>selected</u> quantization indices to produce the (run, level) encoded picture by including

(run, level) encoding of quantization indices that are not the largest magnitude <u>non-zero</u>

quantization indices in order to (run, level) encode the largest magnitude <u>non-zero</u> quantization

indices with fewer bits than would otherwise be required for (run, level) encoding of the largest

magnitude <u>non-zero</u> quantization indices.

17.   (Currently amended)   A digital computer for scaling non-scalable MPEG-2

coded video to produce reduced-bandwidth, reduced-quality MPEG-2 coded video, the non-

scalable MPEG-2 coded video including a set of non-zero AC discrete cosine transform (DCT)

~~coefficients~~ <u>quantization indices</u> for 8x8 blocks of the non-scalable MPEG-2 coded video, <u>the</u>

<u>non-zero AC discrete cosine transform (DCT) indices for at least some of the 8x8 blocks of the</u>

<u>non-scalable MPEG-2 coded video having been produced by using a quantization step size that is</u>

<u>not uniform within said at least some of the blocks,</u> the digital computer comprising a processor

programmed for <u>inspecting magnitudes of the non-zero AC DCT quantization indices for</u>

removing non-zero AC DCT ~~coefficients~~ <u>quantization indices</u> from the non-scalable MPEG-2

coded video so that the reduced-quality MPEG-2 coded video includes no more than a selected

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number of largest magnitude <u>non-zero AC DCT</u> quantization indices for the non-zero AC DCT <s>coefficients</s> <u>quantization indices</u> for each 8x8 block.

18.   (Original)   The digital computer as claimed in claim 17, wherein the processor is programmed for processing each of the 8 x 8 blocks of the non-scalable MPEG-2 video by:

    a.) parsing and copying a differential DC coefficient variable-length code (VLC);

    b.) parsing and decoding (run, level) event variable-length codes (VLCs) up to an end-of-block marker to identify a respective set of non-zero quantization indices;

    c.) finding up to the selected number of non-zero quantization indices having the largest level magnitudes in the respective set of non-zero quantization indices to identify a respective set of largest magnitude non-zero quantization indices; and

    d.) applying (run, level) event formation and entropy encoding to the set of largest magnitude non-zero quantization indices.

19.   (Original)   The digital computer as claimed in claim 18, wherein the processor is programmed for sorting indices in the respective set of non-zero quantization indices in order to find up to the selected number of non-zero quantization indices having the largest level magnitudes in the respective set of non-zero quantization indices.

20.   (Currently amended)   The digital computer as claimed in claim 18, wherein the processor is programmed for applying (run, level) event formation and entropy encoding to the

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set of largest magnitude non-zero quantization indices by including (run, level) encoding of

quantization indices that are not largest magnitude non-zero quantization indices in order to (run,

level) encode the set of largest magnitude non-zero quantization indices with fewer bits than

would otherwise be required for (run, level) encoding of the set of largest magnitude non-zero

quantization indices.